



Navy Shipbuilding Industrial Base

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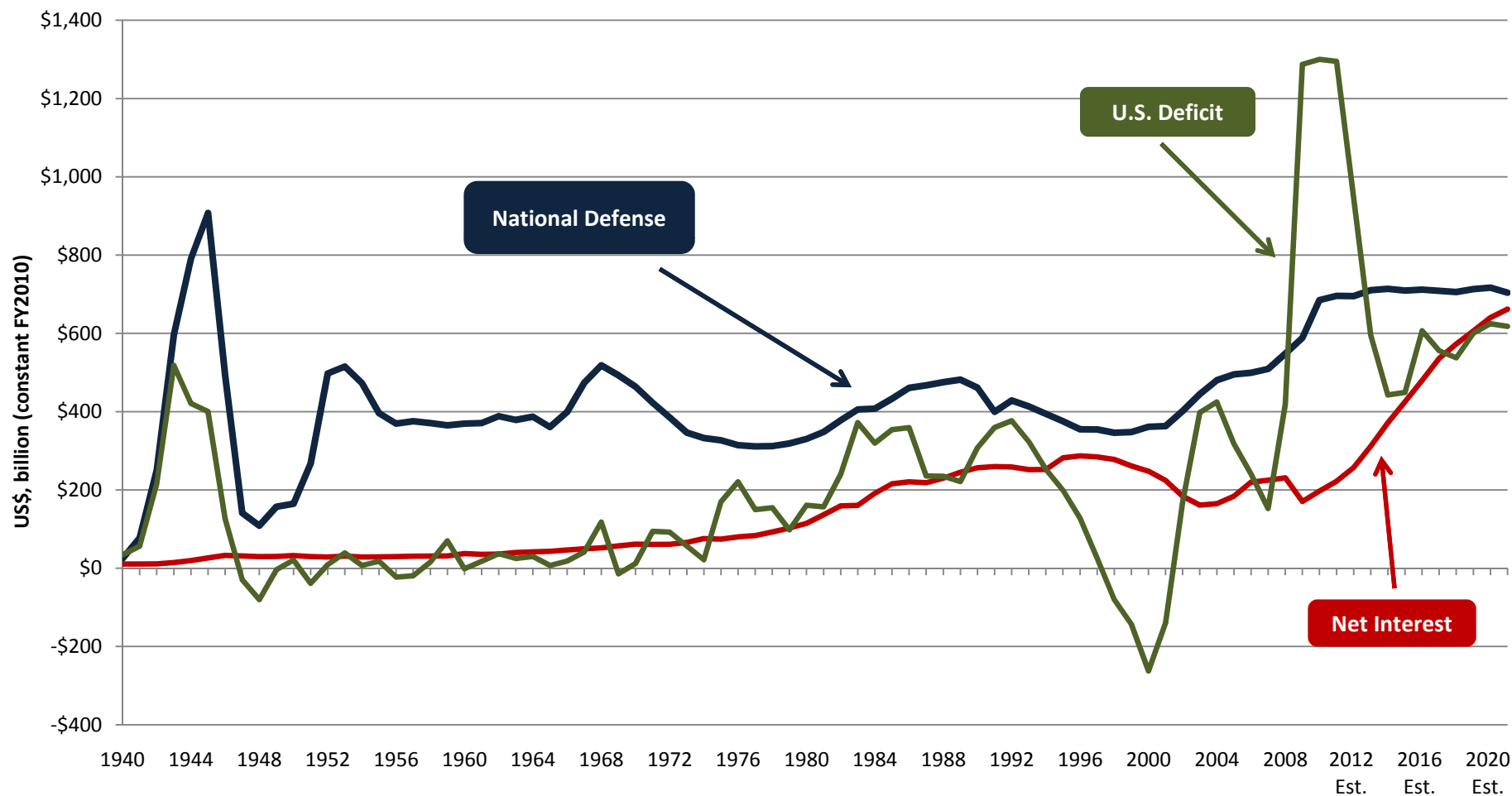
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Navy Shipbuilding Industrial Base

- **Key questions remain unanswered**
 - **How many ships are needed, and what types?**
 - **For what missions? To which purposes?**
- **313 ship Navy goal in 2010 QDR**
- **“Low 320s” goal in Navy testimony on FY 2012 budget**
- **For industrial base assessment, the required number of Navy ships required and their capabilities is imprecise and evolving**

Defense Spending and Deficit Trends



Navy Shipbuilding Industrial Base

- **What makes up the Navy Shipbuilding Industrial Base?**
 - **Ship construction yards, both large and mid-tier**
 - **Construction workforce at shipyards**
 - **Design and engineering workforce**
 - **Supplier base**
 - **Combat systems**
- **For today, focus first on ship construction yards**

Navy Shipbuilding Industrial Base – Core Shipyards

- **Electric Boat (EB)**
- **Bath Iron Works (BIW)**
- **National Steel and Shipbuilding Company (NASSCO)**
- **Newport News**
- **Ingalls Shipbuilding – Pascagoula, Pascagoula facility**
- **Ingalls Shipbuilding – Pascagoula, Avondale facility**
- **Mid-tier (LCS) yards**
 - **Marinette Marine (Wisconsin)**
 - **Austal (Alabama)**

Defense Companies on the Fortune 100 List

1988			
Rank	Company	Revenue (\$ millions)	Profits (\$ millions)
26	McDonnell Douglas	\$13,146.0	\$313.0
30	Lockheed Corporation	11,370.0	421.0
39	General Dynamics	9,344.0	437.0
53	Raytheon	7,659.0	445.0
69	Northrop Corporation	6,053.0	44.0
79	Martin Marietta	5,165.0	231.0
96	Litton Industries	4,420.0	138.0
Total		\$57,157.0	\$2,079.0

% of Fortune 100
of Companies = 7

4.4% 3.2%

2008			
Rank	Company	Revenue (\$ millions)	Profits (\$ millions)
57	Lockheed Martin	\$41,862.0	\$3,033.0
76	Northrop Grumman	32,032.0	1,790.0
87	General Dynamics	27,294.0	2,072.0
Total		\$101,188.0	\$6,895.0

% of Fortune 100
of Companies = 3

1.5% 1.9%

Navy Shipbuilding Industrial Base – Challenges

- Number one challenge is affordability – how can we have a shipbuilding industrial base that can produce the ships we need for the funding we are likely to get
- Parallel challenge is how to use competition to sustain the industrial base and prevent allocation of contracts without regard to cost
- Industry no longer competitive on global market
- Workforce (construction and design/engineering) hard to sustain
- Supplier base too often one-deep, with little overall knowledge industry-wide
- All of these challenges will get worse as budgets decline and defense industry becomes a smaller part of the US economy

Navy Shipbuilding Industrial Base – Threats to Affordability

- Chronic underutilization of capacity – production rates are too low to use the full capacity of the major shipyards
- Overhead costs increase faster than inflation
- Sub-optimum use of cost-engineering tradeoffs
- Stakeholder objectives not aligned

Navy Shipbuilding Industrial Base – Three Broad Categories

- Nuclear shipyards – EB and NNS
- Large Surface Combatants – BIW, Ingalls
- Large Amphibious and Auxiliary Ships – Ingalls, NASSCO
- Issues differ for each category, solutions also need to differ

Navy Shipbuilding Industrial Base – Status and Future Prospects

- Nuclear shipyards – existing programs (carriers, Virginia-class submarines) combine with ORP for sufficient demand to use base capacity
- Large Surface Combatants – projected construction rates below capacity, below historical rates, creating serious potential underutilization (with LCS complication)
- Large Amphibious and Auxiliary Ships – similar low rate problem to Large Surface Combatants

Navy Shipbuilding Industrial Base - Aligning Requirements, Resources, and Programs

- **Affordability means making cost-engineering tradeoffs and incorporating the results into requirements, programs, and funding**
- **Three simple challenges**
 - **Get the fleet to agree to changes in specs and requirements**
 - **Get the Navy to agree to lower spending in some accounts**
 - **Get the companies to give up revenue**

Navy Shipbuilding Industrial Base – Competition or Allocation

- **Allocation Option**
 - **Align 5 broad categories with 5 major shipyards**
- **Competition Options**
 - **Beyond competitive dual sourcing**

Navy Shipbuilding Industrial Base – Conclusions

- **Uncertain requirements, future missions**
- **Size of fleet will vary over time**
- **Shipbuilding industrial base has excess capacity UNLESS affordability can be achieved AND requirements-cost tradeoffs can be incorporated**
- **Acquisition options: allocation or competition**